

Chemicals you can attach
to LSD to make it legal,
then remove with one
step reaction, notes
towards figuring that out:

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O

pop the O off with a
chemical that has an OH
to get chemical-LSD

Pop the chemical off and

restore the =O with
what?

Youtube video on
protecting group at 6:14
[https://www.youtube.com
/watch?v=YYC_vbrgZDY](https://www.youtube.com/watch?v=YYC_vbrgZDY)
**'Protecting Groups,
Acetals, and
Hemiacetals'**

cyclic thing with =O
sticking out.
Add ethylene glycol

OH- Λ -OH, it makes a
cylindrical thing that is a
protecting group as well
as being legal
molecularly different LSD.
Then, at the restoration
of the molecule, at the
youtube video, in the
presence of H_3O^+
(stomach acid, fruit juice,
vinegar, electrolysis
electrode) it
“regenerates” the
original $\langle \text{cycle} \rangle = 0$. I
do not know if carbonic

acid HCO_3 will generate
this like H_3O^+ or not.

Then (from youtube
video)

Lsd-H (hydrogen sticking
off it) add ethanol-OH

replace LSD's-hydrogen with ethyl group (condense ethanol), or a phenyl group, some easy group to remove. I think this is called a condensation reaction where $\text{Phenyl-OH} + \text{LSD-H} \rightarrow \text{phenylLsd} + \text{H}_2\text{O}$, so then the second thing is to pop off the phenyl.

The chemically amplified resists used in the experiments were based on

polystyrene (PS) and had a t-butoxycarbonyl (t-BOC) protection group

(hereafter "t-BOC resist") and a **1-**

ethoxyethyl (ethyl acetal)

resist (hereafter "EA resist"). The deprotection reaction in the t-BOC resist was observed through changes in the infrared spectrum at 1150 cm^{-1} (C-O ester bonds); the deprotection reaction in the EA resist was monitored through changes in the infrared spectrum at 2980 cm^{-1} (H-C-H alkane bonds). It was found that at room temperature (23°C), whereas the deprotection reaction in the t-BOC resist during exposure

occurred to the extent of only 5% complete, it occurred **(23**

c) nearly to completion in the EA resist.

The change in absorption with exposure time was converted into a protection ratio for protection groups, and fitted to a newly devised deprotection reaction model to estimate the deprotection reaction parameters for exposure. The deprotection reaction parameters thus obtained were input in to a profile simulator, and profile simulations were attempted. The results indicated that whereas the t-BOC resist could be patterned at an ambient a temperature of 70°C and above during exposure, the EA resist could be patterned at room temperature.